Will farmers work together for conservation? The potential limits of farmers' cooperation in agri-environment measures

Abstract

There is growing concern that Agri-environment Schemes (AESs) may not be effective in conserving the countryside. Particular concern has arisen around whether the current approach of individual, farm-level, AES agreements are sufficient to offer landscape-scale environmental protection and enhancement. Whilst recent additions to AESs have sought to encourage more joined-up thinking by offering payments to farmers to form collective agreements, uptake is low and there is very little known about farmers' (non)resistance to such collective conservation. Drawing on in-depth qualitative research with 74 farms across 5 sites in the UK, this paper provides new data on the barriers to farmers' uptake of collective AESs and offers a new formulation of how we understand farming cooperation. The paper advances Bourdieusian-inspired ideas of the cultural construct of 'good farming' by synthesising these with recent reconceptualizations of 'trust' in order to provide a more contextually grounded and temporally-inflected understanding of farmers' cooperative activities. The findings reveal that whilst working relations between farmers are often collegiate, and in places collective, several watershed events over past decades have led to a shift from community-level to process-based (peer-to-peer) trust and a move toward land management being depicted as a squarely individual rather than collective issue. Conceptually, the paper moves beyond the current limitation of viewing trust, and the associated development of social capital – seen as a prerequisite for more collective AESs – as cumulative and one-directional to highlighting their multiple, issue-specific, nature which may become eroded and (re)developed over time. Alongside this, the paper offers a new way of understanding the good farmer by shifting the focus from the individual farm/farmer level to a more fine-grained and contextualised issue-centered notion of good farming. This is then used to explain the seeming reluctance of land holders, evidenced in official statistics, to engage in collective AESs.

Will farmers work together for conservation? The potential limits of farmers' cooperation in agri-environment measures

1. Introduction

Farmland conservation has become an increasingly central focus of European agricultural policy in recent years. Indeed Batary *et al* (2015, p.1008) have suggested that it has become an 'obsession' – pointing to both monetary outlay on agri-environment schemes (AESs) as well as the total areas under scheme management.[1] Now, over three decades since their first introduction, there is an emerging critical reflection on the success of AESs, with some criticisms levelled at both their economic benefits (Quillérou et al., 2011) and, more fundamentally, the ecological and biodiverity benefits they offer (Kleijn et al., 2006).[2] In particular, questions have been raised over their broader-scale benefits and whether AESs can adequately facilitate 'coherent and resilient' networks, which will support species mobility, reproduction, genetic diversity, feeding and breeding ranges (Lawton et al.,2010, p.v), as well as offer the landscape connectivity and permeability which may allow mitigation against climate change (Hopkins,2009). A key structural issue for AESs in this regard, particularly as they have been implemented in the UK, is that although they might have a landscape-scale ambition, they have largely been implemented in the form of individual, farm-scale, agreements (Emery and Franks,2012; Prager et al.,2012; van Dijk et al.,2015). This format of voluntary delivery - common in most EU countries - may only facilitate partial coverage. That is, individual farms participating in AESs may be surrounded by non-participating ones, which might serve to negate some of the potential biodiversity benefits of participation, such as through effectively creating 'ecological trap' (Kentie et al. 2013) for example. Related to this, even where adjacent farms may be participating in AESs, the individual, discreet, nature of their agreements may mean that managements may be replicated and desired mosaic effects of habitats not realised (Schekkerman et al.,2008).

In addressing such cross-scalar challenges, DEFRA's (2011, p.25) biodiversity strategy points to a vision of "encouraging more collaborative working to achieve landscape-scale action".[3] As Lawton *et al* (2010) suggest, such ambitions require a fundamental 'step-change'

[1] As an example, they suggest 3.23 billion euros was spent on AESs by the European Commission in 2012.

[2] Although there are earlier examples of schemes aimed at farmland conservation, most European AESs are traceable to the Agricultural Structures Regulation of 1985 (European Union [EU] Regulation 797/85).

[3] This is born out of Regulation (EU) No. 1305/2013 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD), which states that compensation is available for the

in the way that farmland conservation schemes operate. Franks and Emery (2013) reflect on several ways that, hypothetically, more collaborative forms of conservation may be developed through AES agreements (Figure 1).[4] These range from the current situation of relying on as many individual agreements as possible to add up to a level of landscape protection, through to more proactive – and likely more complex and expensive – options whereby farmers coordinate joint agreements. Villanueva *et al* (2015. p.143) have recently noted in the pages of this journal, that this idea of farmers collectively signing AES contracts has received "scarce attention in the literature" and Stock *et al* (2014, p.412) concur that there is need to pay "greater attention to the micro/macro relationships between actors at and across different scales" including the farm-level. At first glance, the idea of collaborative agreements would seem a logical extension of the current position, particularly if additional financial inducements were offered to cover the transactional costs of such joint agreements. However, the now voluminous literature on individual farmer participation offers several insights to suggest that this issue is likely to be more complicated. First, economic aspects of AES participation are only part of the consideration, with several studies noting that social status and standing may make AESs more or less culturally acceptable and that "structuring subsidy schemes to encourage farmers to co-operate is insufficient to address this issue" (Sutherland and Burton,2011, p.252). Second, and related, there may be distinct geographical variations both in farmers' willingness to participate as well as their ability, in terms of having features on their farm worthy of conservation, to do so. Thirdly, farmers' conservation practices and environmental ideologies are temporally layered, meaning that how individuals engage with schemes is rarely just a present-centered decision – instead taking in both past farming history and future aspirations (Riley, 2011a;2016; Wynne-Jones,2017). Indeed, whilst there are examples of functioning environmental cooperatives in areas such as the Netherlands (Renting and Van Der Ploeg,2001), Westerink *et al* (2014, p.1504) illustrate that such cases may not be easily replicated in other areas in suggesting that: "In the Dutch situation, it has taken decades to develop the culture of cooperation in agri-environmental management".

transaction costs associated with 'joint approaches to environmental projects and ongoing environmental practices' (Supplementary sheet 1.11).

[4] In addition to the environmental benefits, others have pointed to the potential economic benefits of collaborative agreements through reduced transactions costs for both governments and individual landowners as well as potentially reducing costs of monitory and enforcement (Franks 2011).

The following paper examines whether farmers will collaborate within AESs. It does this through offering a more detailed and nuanced understanding of farmers' cooperative and collective activities than has existed to date. Specifically, it places current (non)collective activities in wider historical context and in doing so bring much-needed attention to their multiple and multi-faceted nature and the resultant implications for the current desire to foster more collective AESs. [5] Following a review of the broader literature on AESs and cross-farm cooperation, the paper presents the conceptual framing and methodological approach taken in the studies from which the paper is drawn, before presenting its main findings and recommendations.

2. Background

2.1 Farming cooperation and agri-environmental management

There is a large and relatively diverse literature on cooperation within agriculture – both in relation to the empirical foci and geographical contexts, as well as the conceptual approaches taken. Having much of its origins within agricultural economics (see for example Rhodes,1983), early research in this area focussed specifically on the economic/competitive advantages of farms using cooperative purchasing and marketing. Whilst such research tended to focus on formalised cooperative relations, Emery *et al* (2017) note a more recent broadening to informal forms of cooperative relations and their 'more than economic' elements, with two clear trajectories: that focussing on cooperation as a movement, such as those around food security and fair trade (see Bacon,2015) and more micro-scale considerations of how cooperative and collective farming sits alongside (and potentially clashes with) autonomy in (re)framing farmers' individual identities (Stock and Forney,2014). The latter strand of this research has paid attention to the importance of social capital within cooperative relations – a theme returned to in the discussion of the paper's conceptual framing in the next section.

Although cooperative working has featured for some time in rural development policy, particularly relating to community development and cohesion (e.g. Fazzi,2011), it has only recently been formalised in agri-environmental policy under the European Agricultural Fund for Rural Development (EAFRD). Reviews of extant schemes and cross-farm use of AESs have been provided elsewhere (see Franks and Emery,2013; Prager,2015b; van Dijk et

[5] The paper does not focus on the contractual and legal issues of such collaborative agreements. For a consideration of these issues see Franks (2011).

al.,2015), and key lessons can be drawn on their nature, challenges, and potential applicability to other geographical contexts. The Netherlands – a country much vaunted for its history of cooperative agricultural relations – is one of the few areas to have longer-term experiences of agri-environmental collaboration, with Environmental Cooperatives (EC) existing since the 1990s. Whilst the reported advantages of ECs include a strengthening of farmers' voices in the design and implementation of schemes (van Dijk et al.,2015) and potentially lower transaction costs (Franks and Mc Gloin,2007), challenges have included a lack of observable 'outcomes' or 'results' which serve to reduce the initial enthusiasm of some participants; a lack of professional knowledge – at least at the time of inception – particularly relating to specific environmental management; and legal arrangements being particularly challenging to coordinate (Glasbergen,2000). Prager and Vanclay (2010) consider the 'Landcare' groups in Germany (through comparison with their Australian namesake) - which develop collaborations drawing on AES funding - and note the positive outcome of fostering clearer communication between farmers and environment experts, something echoed in Reed *et al*'s (2014) reflection on the Common Grazing option in the Welsh Glastir Scheme, which saw farmers working collectively in undertaking grazing and capital works on common land.

The broader UK context – both actual and hypothetical – is considered in Franks et al (2016) and Franks and Emery's (2013) account of the then Environmental Stewardship Scheme (ESS) Higher Level Option HR8 (2005-2015) and the more recent facilitation funds offered in the Countryside Stewardship Scheme (CSS). Structural challenges noted of the former, were that these were discretionary agreements and hence farmers could be seen as competing with each other, and the option only covered certain habitats and landscape features. Using telephone surveys (Franks and Emery,2013) and an online consultation (Frank et al.,2016), and providing useful context for the more detailed qualitative approach presented in the current paper, they consider some of the actual and perceived issues in cross-holding agreements. Problems with neighbouring farmers – including personal disagreements and different opinions on conservation – where noted as barriers to participation, with others concerned that their neighbours may renege on aspects of collective agreements (Frank et al.,2016). This sat within the wider observation that farmers tended to prefer to work independently (Franks and Emery,2013). The majority of farmers, though, referred to the potential environmental benefits that they perceived participation would bring (Frank et al.,2016). Currently in the UK, the CSS offers a facilitation fund, which allows farmers

funding to facilitate meetings, pay for advice and develop applications in order to coordinate environmental benefits at the landscape scale.[6]

2.2 Farming, neighbourliness and social capital

Whilst the previous literature on collective AESs has tended to focus on the structural aspects of schemes, the literature above suggests that farmer-to-farmer relations are crucial. In seeking a more nuanced understanding of farmers' (non)collective activities, the paper proposes a conceptual framing which synthesizes ideas of social capital, capital exchange and trust. Notions of social capital have offered insights into environmental activities generally (Pelling and High,2005) and aspects of agriculture specifically (Sutherland and Burton,2011; Svendsen and Svendsen,2000). Such approaches have been fruitful as they focus attention on how social and economic actions are stimulated by the nature and quality of the interactions within the networks of which they are part. Three authors in particular have shaped this thinking within social science - Pierre Bourdieu, James Coleman and Robert Putnam – and whilst their depictions are often presented in opposition to each other because of their differences in terminology and orientation, there are strands from each which might help us think about farmers' interactions and cooperation. Putnam (2001) offers insights, for example, on the role(s) of reciprocity, obligation and trust – themes which have been noted as important with broader studies of agricultural activity. Coleman (1994) recognises social capital's fungibility, noting how it may be accumulated, replaced and exchanged, whilst Bourdieu's (1986, p.51) approach to capital – which is drawn on more extensively in this paper - is valuable for the consideration of farming and farming neighbours because he notes that the amount of social capital depends on two things: "the size of the network of connections [they] can effectively mobilize and on the volume of the capital (economic, cultural or symbolic) possessed in [their] right by each of those to whom [they are] connected". Bourdieu's insights have proved useful in the consideration of AES participation because they allow a focus on forms of capital beyond just the economic and, we would suggest, may arguably be extended to consider AES participation in more collaborative forms. Specifically, Bourdieu (1986, p.46) calls for a framing that does not simply reduce "the universe of exchanges to mercantile exchange, which is objectively and subjectively oriented toward the maximisation of profit, i.e., (economically) self-interested" and hence allows an appreciation of not only the more easily observable (and recorded) exchanges that

[6] For full details see: https://www.gov.uk/government/publications/guide-to-countryside-stewardship-facilitation-fund

may take place in more formal, often institutional, types of cooperation (Flanigan and Sutherland,2015) but also more informal, non-institutional, exchanges which may take place (Sutherland and Burton,2011).

In understanding the (re)production of capital(s), Bourdieu calls us to consider not only economic capital (material goods), but also social capital (emanating from, and reaffirmed by, social contacts) cultural capital (knowledge, skills and dispositions which may be gained by education and socialisation). Alongside this, symbolic capital is the form that these other types may take on when they are "perceived and recognised as legitimate" (Bourdieu, 1986, p.17) within a particular field. In discussing the interrelation between these different forms of capital, Bourdieu (1986) uses the example of a painting – noting that although the ownership of a painting may be reduced to economic capital (who can afford to purchase it), its symbolic capital is only realised in the owner's social network when they demonstrate the means to 'consume' it, that is the cultural capital (or cultural competence) to 'read' and speak of the painting in appropriate ways.[7] Bourdieu uses the term habitus to refer to the "system of lasting and transposable dispositions which, integrating past experiences, function at every moment as a matrix of perceptions, appreciations and actions" (Bourdieu,1977, p.82). Important for our understanding of group dynamics is a recognition that membership within a group – and acting in accordance with the habitus – "provides each of its members with the backing of collectively-owned capital, a 'credential' which entitles them to credit, in the various senses of the word" (Bourdieu,1986, p.51). This symbolic capital is thus important for defining which forms of capital (as well as how they are used) are seen as legitimate and enable individuals to position, and be positioned, within society. Bourdieu's ideas of capital have been applied to farming, with a focus on how the most desirable social relations may be with those deemed to be 'good farmers' (Burton,2004; Burton and Paragahawewa,2011; Riley,2016). This assessment is made on those who exhibit capital - most notably cultural capital in one of its three forms: institutional (competence certified by official organisations), objectified (symbols of prestige in a particular group – such as crop yields or pieces of agricultural machinery) and embodied (skills – including motoric, mechanical and managerial (Burton et al., 2008; Burton and Paragahawewa,2011) – associated with effective farm management). As Burton *et al* (2008) note, in order for farmers to exhibit such capital, three

[7] As Bourdieu (1986, p.49) specifically argues: "any given cultural competence (e.g. being able to read in a world of illiterates) derives a scarcity value from its position in the distribution of cultural capital and yields profits of distinction for its owner".

conditions much be present: (1) the activity requires a skilled performance which differentiates between ‘good’ and ‘bad’ practice; (2) an overt sign that an effective action has been performed; (3) these signs must be accessible to other farmers, usually visually. The weight, or importance, placed on this symbolic capital within a particular group is an intersubjective achievement between group members. As Siisiainen (2000, p.13) suggests, symbolic capital:

> “depends on real practices of communication. In that respect symbolic capital cannot be institutionalized […] It exists and grows only in intersubjective reflection and can be recognized only there. Economic and cultural capital have their own modes of existence (money, shares; examinations and diplomas); whereas symbolic capital exist only in the "eyes of the others".

Although his work does not focus specifically on cooperation – or at least cooperatives in the institutional sense – Bourdieu’s depiction of capital exchange provides a fruitful way to explore how farmers interact. In particular, it provides a clear way to understand not just specific instances of cooperation, but wider sets of interchanges and how these evolve(d) over time.

In their discussion of farmers’ interactions Huang and Drescher suggest that “land managers *who trust and have confidence in each other* will probably work more effectively together and will likely require less input to foster collective action” (Huang and Drescher,2015, p.1351 emphasis added). Although trust is a central aspect within Putnam’s discussion of social capital, there is often confusion within the literature, with some authors conflating social capital and trust and others debating whether trust is produced by, or results from, social capital. Whilst Bourdieu does not specifically mention trust, it is clearly implicit in his work, with reference to how “the reproduction of social capital presupposes an unceasing effort of sociability, a continuous series of exchanges in which recognition is endlessly affirmed and reaffirmed” (Bourdieu,1986, p.250). In this paper we consider trust as a catalyst to social capital (cf. Fisher,2013), where social relationships are translated into social capital where trust is present – a view of trust we see as akin to Bourdieu’s ‘practices of communication’. The broader literature on trust is vast, and as Mikhailova (2004, p.139) suggests it has, unhelpfully, often seen different types of trust “lumped confusingly and unproductively under one concept: ‘trust’”. Whilst Putnam (2001) refers to ‘thick trust’ – that associated with closer and more frequent networks (such as family and close friends) and

'thin trust' which is associated with less familiar relations and may be assessed by reputations, norms and appearance, our consideration of how farming relations change time and in specific contexts calls for a more fine-grained conceptualisation of trust.

Fukuyama (2001) draws distinction between *levels* of trust, focussing on the intensity (from high to low) with which people trust each other. They add to this the 'trust radius' (which may be broad or narrow) that places attention on the breadth or width of the circle who an individual will trust. These may range in scale from small cliques up to NGOs or religious groups, with society seen as made up of concentric and overlapping radii of trust (Fukuyama,2001). Those which embody high levels of social capital may have a radius of trust that it larger than the group itself, whilst in larger organisations which develop cooperative norms amongst only permanent staff or those in management positions, they may have a radius of trust smaller than the group (Fukuyama,2001). In paying attention to context-specific nature of trust – something central to our paper's concern with the relations between adjoining farms – Zucker's (1986) modes of trust are useful. They distinguish between: institutionally-based, characteristic-based and process-based trust. First, "institutionally-based trust" is seen as coming from formal, institutionalised, settings including, at one level, formal rules and regulations from government, through to trust associated with the education system or professional bodies. The second type, "characteristic-based trust", is seen as a product of group membership that is based on social similarities or a joint identity. Here, the reliance is less on personal knowledge or contact *per se*, but instead relies on "information concerning social similarity" (Zucker,1986, p.51) (such as age, family background, ethnicity etc.), such that those with these similar characteristics may share background understandings which will elevate their level of trust. For the purposes of the current paper, it is important to note that such group membership need not be geographically restricted – so, for example, the 'farming community' may be broader than just those farmers in the immediate geographical vicinity. Thirdly, "Process-based trust" is based on recurring exchanges between actors. This mode of trust involves "a considerable amount of person-specific information" (Zucker,1986, p.60), whereby repeated interactions allow individuals to recognise that others will be trusted to act in broadly predictable ways based on these past experiences and interactions.

In recognising a temporal dynamicity to trust, the work of Lewicki and Bunker (1996, p.124) and Lewicki *et al* (1998) is useful for examining how "trust develops gradually as the parties move from one stage to another" in a more transformational way. Their work takes a more complex view of interpersonal relationships, noting that there may be simultaneous reasons

for trust and distrust within the same relationship – what they refer to as different 'bandwidths' and levels of 'richness'. Reasons for trust and distrust accumulate within relationships, providing more breadth as it crosses different facets of the relationships and leading to more depth (in various aspects of these interrelations) over time:

> "Relationships mature with interaction frequency, duration, and the diversity of challenges that relationship partners encounter and face together. Each of these components is essential. If the parties interact frequently and over a long period of time but only superficially, or if they have an issue-rich and frequent exchange but do so only around a limited and bounded problem, or if they interact around many issues but do so infrequently, these conditions limit the potential for the relationship to mature. Alternatively, if these components combine, the knowledge of each relationship partner is enhanced" (Lewicki et al.,1998, p.443)

We bring together these notions of trust, social capital and good farming, to offer a more nuanced and robust conceptual framing of farming relations. Importantly, the paper provides the framework for understanding that these relations are both contextual (spatially and in relation to the specific issues) and may evolve and be (re)worked over time.

3. Methods

The research presented in this paper is drawn from interviews on 74 farms across 5 study sites in the UK (Figure 2). These interviews come from two projects investigating farmland management and conservation. The interviews within the Peak District – an upland area in England – focussed on the catchment areas of the River Dove and River Manifold in the South West of the District. The four other study sites focussed on the catchment areas of Lakes: Loweswater and Brotherswater located in the Lake District – an upland region in Northwest England; the Loch of the Lowes is in the Southern Upland of Scotland, and Crosemere a lowland area in Shropshire. The sites represent areas of high conservation value, with farmers eligible for entry into AESs. Using the catchment areas as a geographical boundary, initial contact was made with farmers via the Yellow Pages, with chain referral sampling (after Heckathorn,2002) used to locate neighbouring farms not listed. Farmers were sent a letter explaining the nature of the research (guaranteeing their anonymity) and requesting interview.[8]All interviews were conducted on farm and adopting, where possible, a

[8] Size of farm/holding is not given in order that individual farms/farmers are not identifiable.

walking interview approach (after Riley,2010), which enabled several members of the same farm to engage in the research and for different parts of the farm to be visited to exemplify and expand on the interview responses. Of the 74 farms, 58 were participating in individual AESs agreements. Interviews lasted between 1 and 4 hours, often split over more than one visit, and focussed on the history of land management on the farm as well as the nature of joint working and cooperation with other farmers and how this has evolved over time. This in-depth interview approach was deemed suitable following the suggestion of Wynne-Jones (2017, p.3) that singularly economistic readings are limited and that there is a "need for richer sociological accounts of farmer co-operation", particularly given the emphasis in previous research on using just surveys or questionnaires. Interviews were recorded and transcribed verbatim, with each transcript read through several times and coded manually following the framework set out by Jackson (2001). A number of overarching themes were identified using this thematic coding and are explored in the following discussion. Where their interview extracts are drawn upon, farmers are referred to by location (P = Peak District; L = Loweswater; B = Brotherswater; LL = Loch of the Lowes; C = Crosemere) followed by farm type(s) (D = Dairy; B = Beef; S = Sheep; A = Arable/crops).

4.1 'Not in each other's pockets' – understanding the limits of farming cooperation

When farmers were asked to comment on their interactions with other farmers generally, and their likelihood of entering into cooperative management specifically, their responses highlighted the complex and multi-layered nature of such engagements. The extract below, from a farmer in the Peak District and which will be returned to several times in the paper, acts as a useful entrée to the discussion which follows and highlights the multifaceted nature of these relations:

> *"We join up with three different neighbours and we get on with all of them. Frank [neighbouring farmer 1] has been here as long as us…our grandfathers worked together, so did our fathers, we're the same age and have grown up together, so there's a lot of history [….] John [neighbouring farmer 2] retired a year or so ago. His lad has taken it on and he's pressing on, but seems a nice chap and we promised John we'd always help him out […] the [neighbouring farmer 3], he sadly died and his sons are not in farming and they've set the land out for grazing, so there have been various ones coming and going with that one, someone from away had it last year,*

so we let them use our sheep dip…I'm not sure who's having it this year though […] We get on with all of them, but we're not in each other's pockets" (Farmer 2,P-B/S)

The first important observation is that cooperation and farming relations have a history – with past activities clearly leaving a legacy which shapes farmers' interactions in the present. Relating to this, and arguably a factor of it, farmers' cooperative relations are clearly not equal or consistent between all farmers. Whilst farmer 2 notes that they "get on well with all of them" his narrative goes on to reveal that individual relations are (re)shaped by different levels of social capital, which may be built up, and drawn upon (even across generations (see also Riley,2012), over time in these cooperative relations. Third, and hinted at the final part of the extract, is that cooperation is multifaceted – that is, cooperation in one aspect of farming does not necessarily translate to cooperation in another aspect.

Turning first to the issues of history and temporality. Foregrounded in the experiences of farmer 2 was how past interactions were central to those in the present. Farmers were asked in interview to discuss if, and how, they felt their cooperation with other farmers had changed over time. Whilst there were several individual narratives relayed – some of which will be referred to later in the paper – the interviews suggested that three common ones proves to be watershed moments for cooperation on most farms: the mechanisation of agricultural practices (in various forms), the disbandment of the Milk Marketing Board (MMB) [9] and the evolution of farming subsidies. Most often referred to was the disbandment of the MMB:

"That was when I think is started going wrong…if we'd have stuck together we wouldn't see this mess we've got now […] we had a good system where everyone could make a living and then we mucked it up"(Farmer 4,P-D/S)

"It was a few greedy buggers who let everyone down […] they thought they could get a few pence more and broke the whole thing up […] we had a good level playing field, where you knew where you stood, and they screwed it up" (Farmer 20,B-B/S)

[9] The MMB was set up in 1933 as producer-run marketing board and served to provide a guaranteed minimum price to producers for their milk. The MMB was largely disbanded in 1993 (and finally dissolved in 2002) as part of the deregulation of the British Milk Market. Although not all the farmers spoken to were members of the MMB at the time of its disbandment, over 80% had some involvement in their farming history in selling milk through the MMB.

Two important aspects flow from this example for our broader understanding of farming cooperation – first, how this event led to an erosion of what may be seen as more generalised trust and toward a prioritisation of more local trust, and second how this disbandment, albeit quite subtly, served to disturb the way that social capital was generated and assessed amongst farmers. The reference to 'if we'd have stuck together' works at Zucker's (1986) characteristic-based (or community) trust level – where stories referred not to specific acquaintances, but addressed the farming community more generally. For those interviewed, the move away from the MMB to a free market represented a change to the 'rules of the game' (Bourdieu,1984). Prior to this point, there had been a more general level of trust, creating a level of social capital which "provides each of its members with the backing of the collectively owned capital, a "credential" which entitles them to credit, in the various senses of the word" (Bourdieu,1986, p.51). Such 'social obligations' (Bourdieu,1986) were broad scale as the MMB represented a more institutionalised form of cooperation, with trust and obligations extending beyond just neighbours. Whilst the disbandment led to a general erosion this community-level trust, it simultaneously brought a reconfiguration of more local-level relations:

> *"We [several neighbours] stuck together and all went with Milk Marque*[10] *[…] it was no good in this part of the world all going separate ways […] when there is snow on the ground, we need to pull together and make sure we could get the milk lorry here to collect our milk"* (Farmer 6,P-D/S)

The decline of community-level trust, such responses highlighted, was important to reinforcing local trust, or in Fukuyama's (2001) terms a narrower trust radius. For these farmers, 'sticking together' was born out of a sense of isolation felt with the disbandment of the MMB and saw a strengthening of their own, local, cooperation in order to enhance their resilience relating to getting their milk off their farm in periods of bad weather. As the aforementioned suggests, such events served to reinforce the idea of farmers' cooperation and trust being less around shared characteristics at the general level of farming community involvement toward more direct peer-to-peer engagement and observation – or what Hardin (2002) might refer to as 'updating' the system. Social capital was built up here through direct exchange and experience and facilitated through more issue-centred trust. The breaking down

[10] Milk Marque was a successor cooperative set up after the MMB, which was later forced to break up following a questioning by the Monopolies and Mergers Commission on his monopolistic position in relation to milk price changes.

of the institutional cooperation embodied in the MMB – or what farmer 20 referred to as removing the "level playing field" - also led to a challenge to how these local forms of capital accumulation took place:

> *"if someone was sending a lot of milk, you knew they were doing well…breeding well or feeding well or whatever…after [the disbandment] you didn't know if they were doing well or whether they'd taken a dodgy handshake with someone"* (Farmer 32,C-B/S)

As Bourdieu (1984) suggests, whilst economic capital can be assessed, symbolic capital exists through how it is interpreted by others. The transparent, and largely standard, pricing of the MMB allowed farmers to assess the skill of other farmers more easily through being able to attribute economic and objectified cultural capital (new equipment, purchasing more land) to skills (embodied cultural capital) in areas such as their grassland management or breeding programmes rather than having a more favourable milk contract.

Whilst the disbandment of the MMB was a quite discrete event, the more diffuse process of mechanisation was commonly pointed to as having a profound effect on the landscape of more collaborative working:

> *"We'd help each other with stuff like haymaking […] if we weren't doing it, we'd go over and help next door […] but when balers came in the 1950s and 60s*[11] *it wasn't the same….our neighbour brought it over and I was scared it would break […] we got one a few years later and then we eventually went to round baling and that aspect of it went…helping each other went altogether really"* (Farmer 1,P-B/S)

> *"we worked together with silage-making at one time, but [the neighbours] got bigger and bigger and eventually invested in a self-propelled machine and got into contracting too […] we thought it was time to invest in our own machine…those [self-propelled] machines are nearly a hundred grand, and I didn't want to have to pay for their repairs if it picked up a stone in our fields"*(Farmer 34,LL-B/S/A)

[11] The Peak District was a relatively late adopter of baling technologies.

> *"We've managed to get self-sufficient over the years…as the others have got bigger, we've picked up their smaller equipment at farm sales, which will do for our scale of operation"* (Farmer 61,L-B/S)

Mechanisation, and the refinement of mechanisation over time, served to irrevocably change farming relations for most of the farmers interviewed. Crucial in all three of the extracts above is the idea that machinery brought monetary exchange into the system and was pointed to, by many, as the beginning of the erosion of cooperation in land management (or production) activities. As Sutherland and Burton (2011) note, a key difference between machinery and labour sharing is the relative value placed on each – with an easily quantifiable, economic, value placed on machinery, whilst farmers tend to downplay the value of their own (family) labour.[12] The result is that the mechanisation of specific activities disturbed the balance of reciprocal exchanged which has previously been present in agriculture – as one farmer commented: "asking them for a hand to gather in some cattle is very very different from asking to borrow thirty grands worth of tackle". Three outcomes of this mechanisation are important for contextualising AES cooperation in the present. First, the monetarisation of land-based activities, which saw an erosion of the previous systems of labour exchange and what Salzar (1993) has referred to as the 'moral economy' of agriculture – crystallised into contractual arrangements for many farms, with payments made for activities such as silage-making or combine harvesting. This led to a gradual erosion of neighbour-to-neighbour support and the associated issue-centered trust which had previously played a strong role in these annual activities, with contractors often being from some distance away. Second, and connected, the disparity noted between machine use and physical labour led many farmers – such as farmer 61 in the quote above – to seek to increase their level of independence through purchasing their own equipment to perform these tasks. Third, and cutting across these, land management lost some of its cooperative as well as routinized elements. Whilst neighbouring relations remained positive after mechanisation, it served to rupture the routinized system of shared involvement in land management. Using Lewicki *et al*'s (1998) terminology, we see a change from more issue-focused exchanges – specifically the regular, routinized and annual practices of land management – to, following mechanisation, a more generalised, less regular and more *ad hoc* set of relations.

[12] Whilst Sutherland and Burton (2011) noted in their study areas that machinery 'pooling' and joint purchase had the potential for machinery to increase farming cooperation, this was relatively uncommon in the study sites in the current research.

Whilst the first event spoken about (the disbandment of the MMB) can be traced to a specific event, and the second (mechanisation) can be traced to a cumulative process in the post-war period, the third area was a collection of events which can be broadly categorised as increased state intervention. The three extracts below represent the subtly different ways that this state intervention has served to change farmers' collective and cooperative arrangements:

> *"the 'single' farm payment says it all really. You're on your own, your payment not anyone else's […] that's the mind-set these days"* (Farmer 64,L-B/S)

> *"In the past, their stock would get into ours and we would probably have some on them too…. It worked out in the end […] but you can't do that so much now, if the Ministry come to check you out and find you've not got all your stock accounted for, you're in trouble"* (Farmer 4,P-D/S)

> *"they are buying all sorts of shit [cows] from anywhere, same with their sheep. They've got into the spiral with it. They had one reactor*[13] *and now they've ended up getting stock wherever they can, and they are going on and on with it….they're not that good anymore"* (Farmer 9,P-B/S)

What we see here is an irrevocable change to the institutional base from which trust and social capital might develop. Whilst the first extract cements a more discursive boundary between farms, the latter two present the drawing of more literal boundaries between them. Farmer 4 noted that the increased tracking of livestock[14] had served to formalise the division between farms where more informal arrangements had previously existed. Farmer 9 extends this further in the context of recent disease scares and what we might see as changes to the 'rules of the game' and associated farming habitus. Although it was recognised that TB, as a prominent example discussed in interviews, may be fairly indiscriminate in terms of where infection occurs, the farmers suggested that a new aspect of good farming has emerged whereby cultural capital has started to be associated with being selective with livestock purchasing and movement in seeking to mitigate against herd infection. Such insights have relevance to understanding AESs, by highlighting social capital's fungibility. The specific

[13] A 'Reactor' is an animal which has failed a test for bovine TB.
[14] A process related, historically, to subsidy payments made to UK farmers directly for livestock and, more recently, associated with attempts to control the spread of disease. See Riley (2011b) for a discussion of the changing farmer-livestock relations around these technological advances.

case illustrates how subtle changes to the field (after Bourdieu,1986) – in this case the threat of disease – can lead to a rapid rewriting of the rules of the game, and a farmer with previously high levels of social capital associated with his productive farm, can lose this status when failing to exhibit the necessary cultural capital in this new context. The extent to which AESs represent a new field – and associated rules of the game – will be discussed later in the paper, but a key conceptual lesson here is that longstanding relations of high social capital may not easily translate or carry over into new contexts.

4.2 'There's working together and there's working together': the limits of cooperation

The previous section highlighted some of the key events pointed to by farmers that (re)shaped, to greater or lesser extents, the way that they interacted with other farmers. Such changes have by no means led to a cessation of neighbourly relations, but it was noted that these had often become less formal and more *ad hoc*. In examining these relationships, the research found that the more visible forms of continued cooperation were not always with those farms geographically adjacent. The three following extracts illustrate different examples of this:

> *"we take the sheep down to [farm around 15 miles away] and graze their meadow land over the winter when they've housed their cows […] it works well for us as it gives our land at rest and it makes sure theirs is cleaned up properly"* (Farmer 36,LL-S)

> *"We have pig muck off [farm around 2 miles away] to help get the grass going. Its good stuff, but they don't have much land and most of the farms round them are grazing….we've got a lot down to maize, which is a hungry crop, so we can swallow plenty of it up for them. It's a win-win I suppose […] then they sometimes buy crops off us for feed too"* (Farmer 33,C-A/S)

> *"We've farmed with our cousins [a farm around 8 miles away] for getting in silage for a good few years. We take our trailers and cart in for them, and they bring theirs to us […] they are that couple of weeks ahead of us in terms of having the weather and the grass, just that bit better country, a bit warmer, so it can work for us all"* (Farmer 11,P-D/B/S)

The extracts highlight that symbiotic relationships between farmers are clearly present – and are often a central part of cooperation on many farms. The idea of 'neighbours' in these

cases, however, was a somewhat elastic term, with these clearer examples of farming cooperation not being with geographically adjacent neighbours. Indeed it is precisely because of these distances that the relationships work as they do. Slightly different climates and farm type facilitate these symbiotic and choreographed forms of interaction, with different types of farm activity, or the same activities occurring at different times, allowing them to work together. We noted in the last section that the more general, community-level, focus of trust may have been superseded by more local, and personalised interactions, and the evidence here suggests that these new relations develop most clearly on farms that are not geographically contiguous. For the theme of AES cooperation, we see that where the strongest and most active levels of cooperation currently exist, this may not be in areas of adjoining nature types, and it is not simply a case of being able to overlay agreements onto these pre-existing, well-developed, relations.

In addition to these more durable and continuous sets of spatially-specific interactions between farmers, the interviews revealed that a more general pattern of transition toward more transitory and ephemeral relations had taken place across most farms:

> *"We've helped all our neighbours out at some point – giving them a tow when they are stuck, running them a calf to market or whatever […] It's a balance. I wouldn't be scared of asking for their help…but if we were there all the time I'd get a bit worried about that"* (Farmer 21,B-B/S)

Important in the latter part of the quote of farmer 21 is that whilst social capital may be gleaned from offering help (cf. Flanigan and Sutherland,2015), it may be eroded where a farmer becomes over-reliant on this help, or when their peers feel they are calling on this too frequently. Whilst they have often been conflated, Emery (2015) draws a distinction between individualism and 'independence' – noting that individualism is a preference for working in isolation and independence is more correctly seen as being about a level of self-direction and autonomy. The quote of farmer 21 echoes Emery's (2015) subsequent observation that independence can be part of *inter*dependency. It was seen earlier in the paper that changes to agricultural policy and governance have led to aspects of agriculture become individualistic, but as the quote highlights, interdependency is still a central aspect for most of the farmers spoken to. Such evidence suggests, however, that there are limits to interdependency, with more short-term and occasional support seen as a desirable trait, but over-reliance having a negative impact on good farmer status. Taken together, such responses highlight, for the

purposes of undertaking cooperative AESs, that cooperation has boundaries. Specifically, farmers may be reluctant to engage in longer term, continuous, or what may be seen as a *reliant* cooperation. A second strand relating to these boundaries are the *type* of activities where cooperation may be seen as more or less appropriate. The following extracts make reference to different forms of cooperative activities:

> *I trust all those that we join up with, no question, they are good neighbours…we've always helped each other in this valley…helping each other do our thing […] my wife helps the old boy next door now and again with his paper work, I give the other side a hand getting their sheep in sometimes with their shearing […] But I wouldn't want to get into an [AES] agreement with them….there's working together and there's working together. How they manage their land is their own business…I wouldn't want to be tied together* (Farmer 66,L-B/S)

> *Because we've only got a few sheep, we get the sheep shower to come on the same day…we do ours in the morning and theirs in the afternoon…gives them a full day's work over this way* (Farmer 13,P-B/S)

> *Interviewer: and what about your land management, harvesting and things?*

> *No, not really with that stuff […] I went and baled a small patch for them a few years ago when they'd broken down. It was talking of rain and it would have been ruined […] but we don't get involved in working each other's land…this is an uneasy farm and I only really trust myself on it*

The farmers' responses – common amongst those interviewed – highlight two points for the discussion of collective AESs: the distinction drawn between land management and other types of collaboration and the importance of these relations not being continuous or permanent. In part, the quotes echo our earlier observation that cooperation is more desirable on an issue-by-issue basis. This, however, feeds into a recognition of the specificity of direct land management. The activities most often referred to as having collaboration were those which might be called *subsidiary* or *process* tasks – that is, they were not directly land management. Emery (2015) suggests that there is often a denial of independence within agriculture, and we would argue that one possible explanation is the failure of previous research to draw distinction between the farm as a whole and specific activities therein. This

was clearly captured in farmer 66's reference to land management being "their own business", where collaboration is clearly visible in some tasks but is a different issue when it comes to the direct land management which is central to AESs. At the end of his quote, farmer 13 offers further insight into this distinction – and perhaps a rationale for why it has arisen – by referring to the very particular nature of their land. As several studies have noted, farmers develop very intricate, micro-scale, understanding of their land over time (Harvey and Riley, 2005; Riley,2008) – relating both to its production potential but also, as farmer 13 indicates, how to safely navigate its steep or difficult terrain. Such individualising, and non-cooperative land management does, farmer 13 suggests, arise in part through a concern for safety, but also a narrow bandwidth of trust a farmer may have where their neighbours do not have detailed, often embodied, knowledge of this specific tract of land. Taken together, such observations offer insights into our understanding of farming cooperation and the potential barriers to collective AESs. Whist cooperation clearly exists, land management (and the decisions around land management) have been individualised and often taken out of these realms of collective activity.

Although not focussing specifically on the idea of collaborative agreements, research on AES uptake and participation has noted that the example set by, and experiences of, other farmers – particularly on neighbouring farms – can positively persuade participation, both as a result of their pre-existing standing in the field (Burton et al.,2008) and also in providing 'contextualised knowledge' (Riley,2016) of how the scheme might relate to the specific farming environment in their area. A logical extension of this might be that collaborative agreements might build out from these participating farms. However, our interviews revealed that the converse situation may be presented, where participating farmers may dissuade others from participation:

> *"They let their farm go to rack and ruin, never did any drainage, let their walls fall down […] they get a couple of rare plants and they are the poster boy of conservation…well we're not getting involved with them, now way. Not getting tarred with that brush"* (Farmer 26,B-B/S)

This is perhaps an example of what Putnam (2001) refers to as 'dark side' of social capital – whereby a sense of isolation and exclusion may occur. As Portes (1998) argues, such 'not so desirable consequences' of sociability have often been ignored in what they refer to as the sociological bias to see the positive things emerging out of social relations. Whilst strong ties,

and adherence to the rules of the game, may bring member benefits, so too they may lead to exclusion – or what they refer to as 'negative social capital' (Portes,1998,p.15). In this case, past demonstrations of 'good farming' and adhering to the 'rules of the game' are important aspects of capital generation in the present (Burton et al.,2008; Riley,2016). For the farmer in question, his neighbouring farmer's failure to adhere to the rules of the game – specifically the engagement with 'tidy farming' (and the associated skills (cultural capital)) - meant that they held insufficient capital to be seen as someone to work collaboratively with. Although examples such as the lack of land drainage can be seen as instances where what is considered good farming misaligns with current conservation efforts - as the resulting waterlogged land is seen as a good for wading birds in this instance - it illustrates how previous actions shape the willingness to engage collaboratively with other farmers. The important point here is that capital may flow in both directions as part of this potential collaboration. The conservation status of the farm and the farmer becomes superseded and overwritten by the fact this conservation status results, in part, in the eyes of farmer 26, from what he considers to be poor farming practices. A collaborative agreement, therefore, is not simply reducible to cooperating around a specific set of management prescriptions. For farmer 26 and many similar farmers, it carries the possibility of being 'tarred with the same brush' – that is, characterised as being similar, by association, with someone not being seen as a good farmer.

Just as these longer histories of interaction between farmers and their neighbours may (re)shape their willingness to engage in collaborative AESs, so too may a *lack* of longer-term engagement. This was seen most acutely in examples where neighbouring land was rented, with the two following examples offering different perspectives on this:

> *"they have a very good farm and they have a lot of it in HLS.*[15] *They have always been good farmers [….] but they take on a lot of grass eating and thrash the hell out of it…it's a good few miles away, but they graze it late into the winter and it gets poached up and looks a right mess […] I'd be reluctant to get into an agreement with them"* (Farmer 15,P-B/S)

> *"we've got a block right down the side of us, encloses our land on two sides […] the farmer retired and rents it out to the highest bidder [….] well, they*

[15] Higher Level Stewardship – the Higher Tier of the ESS which focussed on specific areas of high conservation value across the UK. Now closed to new applicants – although some farmers have agreements that are still running – it has been superseded by the CSS Higher Tier, see https://www.gov.uk/government/publications/countryside-stewardship-higher-tier-manual

are ranching it pretty bad, so any good for the environment that I'm doing is being lost with what they are up to" (Farmer 31-B/S)

Previous research has noted that farmers act in 'property-centric' (Cooke and Moon,2015) ways, and the observations on rental land from those such as farmer 15 and 31 are important for both our understanding of good farming generally and also our specific consideration of AESs. For our understanding of good farming, such evidence suggests that in addition to the need to recognise the regional geographic variations in what is seen as good farming (see Riley,2016 for a discussion) we might also add more specific micro-geographical elements. Several researchers have pointed to how farmers police, through observation, the good farming status of their neighbours (Burton,2004), but our interview findings suggest that such policing is less pronounced (or possible) where land is away from the main farmstead and/or is used on temporary or short-term leases. Here we see what we might refer to as *emplaced* good farming, whereby farmers might exhibit, and be credited, for their good farming traits and practices in the area around their main farm or homestead, whilst at the same time undertaking less desirable practices on the land further from their home.[16] Such uncertainties relating to land tenure may provide both structural as well as social barriers to attempts to work collaboratively at the landscape level. Structurally, such short-term management – resulting from short-term, and often less formal, tenancy agreements - may leave pockets of land not management in environmentally optimal ways, which might hinder attempts to develop wildlife corridors or mosaics. This in turn may create the more social problems alluded to respectively by farmer 15 and 31, where farmers renting land lack the necessary capital and trust to foster collaboration – because of both their shorter term and more transitory engagement with it - and may engender a sense of them acting as barriers to successful collective agreements.

4.3 Considering collective conservation

It has been argued in the broader literature on environmental cooperation that good communication is a central requirement (Emery and Franks,2012), with the suggestion that where good lines of communication currently exist they may provide a firm basis for collaborative AESs. In this context, the paper's earlier observation that land management

[16] Indeed, there were interview respondents who made reference to taking on additional, non-agreement, land on short-term and informal agreements in order to adhere to the stocking levels and/or management practices on land where they hold AES agreements.

activities were a less collaborative and more individual endeavour, took on a practical significance in relation to the discussion of AESs:

> *"I don't know what they're [adjoining farm] are up to on that front [conservation] […] I've never spoken to them about that that ….] they seem to have been grazing less heavy, so I'm guessing they've got some sort of agreement on"* (Farmer 67,L-S).

> *I know they were in the [earlier scheme], but they have changed things and they hadn't enough points to get in to [the new one]*[17] (Farmer 24,C-B)

> *I know they're in a scheme because I've heard them say it at meeting, but I don't know what thing they've got entered into what […] you can see they've done some cutting there*[18]*, but beyond that I'm not sure* (Farmer 18,P-B/S)

The situation outlined by these farmers was seen on over half of the farms spoken to, where there was little or no knowledge of the specific AES agreements of other, neighbouring, farmers. This echoes, in part, our earlier observation that farmers may have become distanced from each other's land management activities, but ties more closely to the idea that there is little symbolic capital associated with farmland conservation (see for example Burton and Paragahawewa,2011; Riley,2016). A practical consequence of this is that farmers proved unlikely to talk about their conservation practices in general and thus, at least in our sample, very unlikely to engage in more organic discussions of collective activity beyond their own farms. Compounding this, the 'hedgerow farming' (Burton,2004) which has been seen to be an important part of farmers' surveillance of each other, and from which much social capital is seen to flow, is relatively difficult for conservation work. It is only the visible practices that were seen to be outside normal routines – such as large capital works such as drystone walling or the specific mowing of rushes in the example above – that gave farmers any sense of what conservation work their neighbours may be doing. As such, they arguably lack the 'intensive and transparent communication' that has been seen as essential in other cooperative contexts (Mettepenningen et al.,2012, p.16). Although it is not possible to quantify from our study, such observations raise questions about potential *change* that AESs might bring about, with very few farmers commenting on visible change to farms (theirs or others') or the broader landscape brought about by scheme prescriptions. Related to and

[17] In order to protect the identity of the farmer, specific scheme details have not been given.
[18] Mowing patches of rush pasture as part of a Higher Level Stewardship Agreement.

feeding on from this point, even where neighbouring agreements were known about, these were not always conducive to a desire to collaborate:

> *"They're in the scheme […] but they're breaking the rules left, right and centre….I've seen them spreading slurry on foggy days […] plastering it with sheep […] I'm relying on those payments so couldn't risk being involved with them"* (Farmer 40,B-B/S)

> *I know what they've got in agreements, we chatted about that when we signed up […] but I've no idea if they are any good at it […] we've had an invertebrate survey here and they say the meadows are definitely improving, but I don't know what theirs are like* (Farmer 17,P-D/B/S)

Respective interviews revealed that in these cases there were similar, adjoining, habitats that should represent an ideal scenario for a collaborative agreement. Here, however, willingness to participate in AESs was not in question, but instead their respective performance *within* these agreements. If two lessons from earlier in the paper are that collective relations take a good deal of time to build up, and many farmers still base their assessments of others' good farming on conventional agricultural practices – the evidence here suggests that a clear barrier to AES participation lies in assessing 'good *conservation* farming'. Most easy to assess is bad practice, noted in the clear contravening of the rules observed by farmer 40 – and as previous research highlights, once such bad practices have been observed, it may take years to (re)build stocks of social capital. Such examples echo Lewicki *et al*'s (1998) observation that trust and distrust may appear simultaneously in one relationship – with such examples showing that trust associated with wider farming relations may not extend to trust in performance within AESs. More fundamentally, however, was the ability of farmers to assess the work of others. Burton *et al* (2008) note that being able to visibly see the results of skilled performance is central to development of social capital and good farmer status. For farmers such as farmer 17, it was difficult to ascertain which of their neighbours' activities were part of AES agreements and, more fundamentally, there was uncertainty over whether such practices were in fact environmentally beneficial. Here we see that there has been insufficient change in the 'rules of the game' (and farming habitus) to update symbols of good farming to be associated with AES management (cf. Riley,2016). Specifically for collective agreements, even when participating in the same schemes, insufficient information

was available for farmers to make an assessment of the farming status of their neighbours to provide a foundation on which to initiate discussions or build up the level of trust required.

Moving from the more general discussion of AESs, the research asked farmers participating in AES about whether they would extend these to collective agreements. Specific, and potentially collective, management practices were discussed, and the extracts below come from conversations relating to the specific examples of tree planting and rewetting land respectively:

> *"We are up to the wire with our July cutting date [prescribed in AES agreement]…I'm in with the mower as soon as I can be after then as we need the aftermath grazing for the cows […] I wouldn't be able to shift that to join in with anyone else"* (Farmer 18,P-D/S)

> *"Would I consider planting to the extent that they [neighbours] have done there [area of mature trees over neighbouring boundary]?...Yes, I've thought about more planting, but not there…that piece is good shelter for our grazing land just below it, so I wouldn't go there…I'd perhaps plant something on the wet area [on the centre of their farm] that we can't do much with"* (Farmer 3,P-B/S).

> *"No, I don't think I'd want to make it any wetter…It's not producing much, but it takes the pressure off and gives us a little bit of grazing to keep the stocking rate down on the other agreement land"* (Farmer 21,B-B/S)

Two interrelated findings emerge of relevance to the broader discussion of collective AESs. A general lack of attention to broader, landscape-scale, conservation amongst the farmers spoken to, and what we might refer to as the 'constrained conservation' that potentially limits joining up conservation efforts with neighbouring farmers. Although many farmers were in agreements, there was little reference to the wider impacts of landscape connections of their activities. The two most common sentiments included farmer 7's reference to "I just follow the rules I've been given for my land and don't look over the fence" and farmer 14's to "if they [other farmers] sign up and follow the rules too, then it should all come together". The interviews suggest that the historical development of land management, as an individual activity, was reinforced by the introduction of farm-level management prescriptions, and when placed alongside the difficulty in observing the conservation activities of others,

conservation has for the majority of farmers become framed as an individual, rather than landscape-level issue. Farmer 19's suggestion that "if we all follow our rules then it should all piece together" was common amongst farmers and demonstrated a general reluctance to collaborate. Further explanation of this reluctance may come from the way that many farmers spoken to engaged with AESs in what might be called a 'constrained' way. This, we would argue, is a factor of how the management of farms has often evolved in an internally-coordinated, rather than outward-facing, way. In a more productivist sense, this was seen in the examples in Scotland and the Lake District, where hill land was grazed in the summer and lowland in the winter. Whilst there have been some adaptations to their management in order to enter schemes, this too had been choreographed *within* their farms. Two main examples of participation were observed – those who had made very few changes to their pre-agreement management (see Wilson,1996 for similar observations) and those which might be seen as 'stretching to entry'. Examples included those for whom their stocking rate was close to the maximum allowed, or those such as farmer 18 whose management meant that grazing only narrowly fitted with the AES date restrictions on cutting or grazing. This stretched entry meant that they had little flexibility when they were asked specific questions about changing cutting dates, grazing patters or seeking to develop new habitats. Where such developments were mentioned, it was to the inward facing concerns, rather than the wider landscape, to which they turned.

5. Conclusions

The paper has looked at the 'step change' needed to make AESs more successful in their landscape conservation ambitions. Although the policy context for collective AESs arguably now exists, our understanding of farmers' willingness and ability to cooperate in relation to conservation and AESs has, hitherto, been limited. Our findings in this paper suggest that this limitation may, in part, be born out of the tendency of previous research to focus on cooperation in relation to themes of collective buying or selling and from this assume similar relations for cooperative land management and conservation. Our findings, however, highlight that land management represents a different, more unique, case in relation to cooperation. Alongside this, where collective AESs have been discussed it has most often focussed on the structural elements of schemes and hypothetical cases, rather than unpicking the deeper sets of farming relations which underpin farmers' collective dispositions and those specifically relating to land management and conservation that we have highlighted here. Our two broad findings are that farmer-to-farmer relations are temporally layered and these

relations are not universal (both in relation to neighbours and different areas of the farm), but are specific to different farming activities. Taken together, these findings challenge the working assumption in much previous research that cooperation is uniform and static and the associated conclusion that collective AESs may be overlaid onto pre-existing examples of good farming relations. Whilst we found positive relationships with neighbours amongst almost all of those interviewed, very few proved willing to engage in collective AES agreements.

We have observed that changes to agriculture – and three watershed events in particular – have served to irrevocably change the nature of trust (and hence social capital and the nature of cooperation) between farmers. These insights highlight the importance of recognising the antecedents of current farming relations, and warn against the assumption that successful collective conservation in one area – such as the Dutch example referred to in our introduction – can be taken as evidence that this will have similar success in the UK. By considering the context-specific historical development of these relations, the paper has seen that distinct forms of cooperation have evolved and, more significantly for collective AESs, land management has become a predominantly independent activity. Bourdieu (1986) has argued that for social capital to successfully develop, *continuous* social relations are needed. We have seen here that the watershed events served to disrupt this continuity and make it more partial, with cross-farm cooperation remaining strong for certain, more subsidiary, tasks but these watershed events – individually and collectively – making land management activities a more individual and independent activity. Moreover, we have observed a more structural geographical challenge for AESs. In those few examples where more close and regular collaboration takes place – and where collective AESs might be most feasible – they are often on farms that are not geographically contiguous. The social relations which underpin positive inter-farm relations do not always, we would argue, map onto the natural habitats and features that we may wish to preserve.

The paper has reported on several more practical findings relating to farmers' potential engagement with collective AESs, namely: the challenge of reliance on other farmers, a general lack of inter-farm communication around conservation activities, and what we have termed constrained engagement with existing AESs. In noting the importance of social capital, and capital exchange, the paper has shown that collective AES participation is not reducible to particular management prescriptions, it is, in the eyes of farmers, also about association with other farmers – and the implications this may have for their 'good farmer'

and reputational status. The paper has seen that a significant challenge for collective AESs is that the historical evolution of farming cooperation has developed a farming habitus which prizes intermittent, rather than continuous or reliant, support. As such, being closely connected – particularly contractually – in collective AESs was considered antithetical to good farming. In terms of administering collective AESs, this presents challenges. At the most extreme end of the spectrum, the solution of widespread compulsion of collective activity is unlikely to be feasible (see Franks and Emery,2013). At the other end of the spectrum, the maintenance of the status quo of seeking to increase individual agreements, in the hope of collective landscape benefit, is likely to remain most palatable to farmers. Progressing this evidently problematic status quo might include less standardised entry requirements (and eventual prescriptions). At one level this could include a stronger level of direction amongst scheme administrators to vary individual farm prescriptions, particularly through one off and enhanced payments to take account of, and dovetail with, neighbouring farm agreements. In conjunction with this, and born out of our observation of constrained conservation, a more radical approach would be to allow specific areas of habitat to be sacrificed as others are prioritised. That is, a value judgement made over whether allowing a farmer to heavily graze, for example, one area of land in order to facilitate later/more flexible cutting date on other areas to choreograph with surrounding farmers' managements. Here, assessments (both ecological and economic) would need to be made over whether a collective landscape benefit – which might include previously non-participating farmers engaged to enter parts of their farm – outweighs such sacrifices and what habitats become prioritised. Although previous research has suggested a potential impasse whereby AES participation challenges the pre-established identities of farmers and thus may be culturally unsustainable (see Burton et al.,2008), our recognition of the emplaced nature of good farming offers some insight. Whilst this previous research has tended to see categorisation at the aggregate level, classifying in binary terms as good farmers or not, our analysis suggests that this may mask different underlying values and actions that farmers exhibit in relation to different areas that they farm (especially where land is rented). We see potential here, therefore, for a more variable, habitat-specific trade-off approach which would offer the practical advantage of lifting the challenge of constrained conservation – particularly amongst non-participating farmers- and at the same time allowing less of an identity challenge to that noted in previous research.

The paper has noted the challenge of farmers' general lack of communication about their conservation activities, and the compounding factor that they find it difficult to assess (or place value on) the conservation efforts of their neighbours. An obvious recommendation here, echoing previous research (Prager,2015a), is that intermediaries such as scheme officials may help increase the flow of information. To this we would add the importance of these intermediaries taking the time to understand the detailed historical contexts under which these farming patterns have evolved. Although our findings suggest a potentially bleak picture for collective AESs, the longer temporal purview that we have taken suggests that change is possible. Our analysis has shown that trust and social capital are fungible and that changes to the rules of the game – initiated by watershed events such as those referred to – can lead to changes in how good farming is assessed and performed. Turing to Bourdieu (2000) again, he suggests that such change often requires a 'crisis event' and whilst some have suggested that recent changes to agricultural policy such as the decoupling of agricultural support and the associated introduction of 'cross-compliance' may represent a significant change to the rules of the game (Riley,2016; Sutherland,2013), our evidence suggests that even more thoroughgoing changes may be needed to herald more widespread collective agri-environmental activity.

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